

Database of Steel and Alloy (Marochnik)

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Characteristics for grade AM5 (AM5).

Grade :	AM5 (AM5) (АЛ19)
Classification :	Aluminium casting alloys
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Chemical composition in % for grade AM5 (AM5)

Fe	Si	Mn	Ni	Ti	Al	Cu	Zr	Mg	Zn	Impurity
max 0.2	max 0.3	0.6 - 1	max 0.1	0.15 - 0.35	92.45 - 94.75	4.5 - 5.3	max 0.2	max 0.05	max 0.2	all 0.9

Comment: **Al** is a basis; the percentage of **Al** is given approximately.

Mechanical properties under T=20°C for grade AM5 (AM5)

Assortment	Dimension	Direct.	σ_B	σ_T	δ_5	ψ	KCU	Heat treatment
-	mm	-	MPa	MPa	%	%	kJ / m ²	-
Casting, GOST 1583-93			294-333		2-8			

Brinell hardness for AM5 (AM5) , Casting GOST 1583-93	HB 10 ⁻¹ = 70 - 90 MPa
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Technological properties of the material AM5 (AM5).

Linear shrinkage :	1.3 %
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Physical properties for grade AM5 (AM5)

T	E 10 ⁻⁵	α 10 ⁶	λ	ρ	C	R 10 ⁹
Grade	MPa	1/Grade	Watt/(m·Grade)	kg/m ³	J/(kg·Grade)	Ohm·m
20	0.7			2780		59.5
100		19.5	130		838	

Equivalent steels for grade AM5 (AM5)

Warning! Indicated both exact and nearest equivalents.

China
GB
ZAlCu5Mn ZL201

Specification :

Mechanical properties :

σ_B	- Tensile strength , [MPa]
σ_T	- Yield stress , [MPa]
δ_5	- Specific elongation at fracture , [%]
ψ	- Reduction of area , [%]
KCU	- Impact strength , [kJ / m ²]
HB	- Brinell hardness , [MPa]

Physical properties :

T	- Test temperature , [Grade]
E	- Young modulus , [MPa]
α	- Coefficient of linear expansion (range 20° - T) , [1/Grade]
λ	- Thermal (heat) condition coefficient , [Watt/(m·Grade)]
ρ	- Density , [kg/m ³]
C	- Specific heat (range 20° - T) , [J/(kg·Grade)]
R	- Electrical resistance , [Ohm·m]

Database of steels and alloys (Marochnik) contains information about chemical composition and properties more then 2500 steels and alloys (stainless steel, alloy steel, carbone steel, structural steel, tool steel, cast iron, aluminum alloy, titanium alloy, copper alloy, nickel alloy, magnesium alloy and others).
Helpfull for specialists in grade technology, structural engineer, mechanical engineer, metallurgy and metal trader

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